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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/476,521	01/03/00	GROPP H	RUM212

PM82/1019

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EXAMINER	
LUONG, V	
ART UNIT	**PAPER NUMBER**
3682	16

DATE MAILED: 10/19/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/476,521	GROPP et al.
Examiner	**Art Unit**
Luong	3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 8/15/01 .

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-16 is/are pending in the application.

4a) Of the above, claim(s) 8 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-7 and 9-16 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 1/3/00 is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/016,597 .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Vinh T. Luong
Primary Examiner

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☒ Other: *Exhibit*

1. The Supplemental Amendment filed on August 15, 2001 (Paper No. 15) has been entered.

2. The Supplemental Amendment filed on August 15, 2001 (Paper No. 15) is objected to under 37 C.F.R. 1.121 because applicant's clean and marked-up versions of the amended claims are inconsistent with each other. For example, claim 15 of the clean version calls for a solid rod, however, the marked-up version does not show claim 15, it is shown in claim 17 instead. Due to the inconsistency, the clean version is the one used for examination.

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 10 (at second occurrence in clean version) has been renumbered as new claim 16.

4. Claim 8 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 10.

5. This application contains claim 8 drawn to an invention nonelected with traverse in Paper No. 10. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

6. The information disclosure statement filed July 3, 2000 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

7. The listing of references in the specification (German printed patent document 196 40 872.5 on page 5) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

8. The information disclosure statement filed on August 15, 2001 (journal articles G. Pursche, H. Gropp) which is incorporated into pages 31 and 32 of Paper No. 15 fails to comply with 37 CFR 1.97(c) because it lacks the statement specified in 37 CFR 1.97(e), or the fee set forth in 37 CFR 1.17(p). It has been placed in the application file, but the information referred to therein has not been considered.

9. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on July 31, 2000 have been partially approved.

(A) New Fig. 4 has been disapproved because:

(a) new Fig. 4 introduces new matter such as the end piece 4 as now shown. The original Fig. 2 shows that the inner diameter of the pipe 1 is varied: (1) at the junction of the end piece 4 and the pipe 1 as shown by applicant's phantom line; and (2) at referential numeral 1 (see attached Exhibit). However, Fig. 4 shows that the inner diameter of the pipe 1 is constant. The original disclosure does not convey the concept that the inner diameter of the pipe 1 is constant, thus, it is unsupported by the record as filed. *In re Anderson*, 176 U.S.P.Q. 331 (CCPA 1973); and

(b) new Fig. 4 is inconsistent with the description in Paper No. 9. The insertion on page 6, line 12 of the specification, states that the outer diameter of the end piece 4 is slightly larger than an inner diameter of the pipe 1. However, Fig. 4 shows that the outer diameter of the end piece 4 is equal to the inner diameter of the pipe 1.

(B) The corrected Fig. 3 has been disapproved since it introduces new matter. The original drawings do not show the bearing rings. The corrected Fig. 3 now shows the bearing 6 which is identical to the cam 3. The showing and description of a specific type of bearing within a full spectrum of possible bearings is considered under the present disclosure to be new matter. *Cf., In re Smith*, 173 U.S.P.Q. 679 (CCPA 1972) and *Ex parte George*, 230 U.S.P.Q. 575, 578 (Bd. Pat. App. & Inter. 1986).

(C) The corrected Fig. 1 has been approved.

10. The original drawings are objected to because: (a) the drawings should show the plane upon which a sectional view such as Fig. 1 is taken; and (b) each part of the invention such as the solid rod in claim 15 should be designated by a referential numeral or character. Correction is required.

11. The original drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed features such as the bearing rings in claims, 1, 6, etc., and the solid rod in claim 15 must be shown or the features canceled from the claims. No new matter should be entered.

The drawings merely show the pipe 1 as described on page 6 of the specification.

12. The amendment filed February 23, 2000 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is, *e.g.*, as follows:

(A) the insertion in line 9 on page 6 of the specification. The original disclosure does not convey the concept that the cam 3 shown in Fig. 1 has an opening diameter slightly smaller than an outer pipe diameter, thus, it is new matter. *In re Anderson, supra.*

(B) the insertion in line 12 on page 6 of the specification. The original disclosure does not convey the concept that the outer diameter of the end piece 4 is slightly larger than an inner diameter of the pipe 1, thus, it is new matter. *In re Anderson, supra*; and

(C) the insertions in lines 13 and 14 on page 6 of the specification. The original drawings do not show the bearing rings. The corrected Fig. 3 now shows the bearing 6 which is

identical to the cam 3. The showing and description of a specific type of bearing within a full spectrum of possible bearings is considered under the present disclosure to be new matter. *Cf., In re Smith*, 173 U.S.P.Q. 679 (CCPA 1972) and *Ex parte George*, 230 U.S.P.Q. 575, 578 (Bd. Pat. App. & Inter. 1986).

Applicant is required to cancel the new matter in the reply to this Office action.

13. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter such as "an elongated part" in claim 10. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction is required.

14. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

15. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 15 calls for a solid rod. However, applicant's drawings show only a pipe as described on page 6 of the specification. It is unclear as to how applicant makes/uses the camshaft that has an elongated part being a solid rod as claimed.

16. Claims 1-7 and 9-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term such as "conventional compression joints" in claim 1 is vague and indefinite since it is not clear what type of compression joints are considered to be "conventional."

It is unclear whether:

(a) the terms that appear at least twice such as "a joint-stable surface" and "a longitudinal compression joint" in claim 10 refer to the same or different things. See M.P.E.P. 2173.05(o). Applicant is respectfully urged to identify each claimed element with reference to the drawings; and

(b) a confusing variety of terms such as "a compression joint," "compression joints" and "a stable joint" in claim 9 refer to the same or different things. See M.P.E.P. 608.01(o). Applicant is respectfully urged to identify each claimed element with reference to the drawings.

No antecedent basis is seen for the term such as "the outer jacket face" in claim 13.

The use of alternative expressions such as "or" and "and/or" in claims 12 and 16 renders said claims vague and indefinite.

17. Claims 1-7, and 9-16, as best understood, are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Seim *et al.* (Publication "*Erhohung der Sicherheit gebauter* . . ." cited in EPO Search Report in the parent application).

35 USC 102(a)

Regarding claim 1, Seim teaches a built-up camshaft comprising a pipe coated by a joint coating on outer and inner cylindrical surfaces (*id.*, Table on page 289 and Fig. 12 on page 290) and having outer and inner pipe diameters; and having cam places, bearing ring places and pipe end places

(*e.g.*, Figs. 1 and 2, page 284 and Fig. 5 page 286); cams formed as rings with outer and inner cylindrical flanges (Fig. 12) and provided with the joint coating on an inner cylindrical surface of the inner flange and having a cam opening diameter. The outer end pieces of Seim inherently have an outer diameter bigger than the inner pipe diameter so that its outer end can be slipped into the pipe and joined to the pipe.

Note that Seim's camshaft inherently has the bearing rings and end pieces. In fact, the bearing rings and end pieces are notoriously conventional in the camshaft art (see, *e.g.*, US Patent No. 5,299,881 issued to Mettler-Friedli and references classified, *e.g.*, in Class 74, subclass 567, and Class 123, subclass 90.6 of the Office). Without the bearing rings and end pieces, one would not be able to assemble or mount Seim's camshaft to other parts of the internal combustion engine, i.e., it would be inoperative for its intended purposes.

Regarding claim 2, the joint coating of Seim is a joint-stable conversion coating (Fig. 12 and the English summary on page 285).

Regarding claim 3, the inorganic and compound joint coatings of Seim inherently include a cement coating.

Regarding claim 4, at least one of the pipe, cams, end pieces and bearing rings are made of metal as seen by the drawing symbols for draftsmen in Fig. 12.

Regarding claim 5, the outer and inner cylindrical surfaces of the pipe is inherently partially mechanically machined. See, e.g., Fig. 10.

Regarding claims 6 and 7, Seim teaches a built-up camshaft comprising a pipe coated with a crystalline phosphate coating or a cement on an outer cylindrical surface and having outer and inner pipe diameters; cams and bearing rings (Fig. 9 and Table on page 289, and Fig. 12) having an inner diameter and end pieces having an outer diameter connected by means of compression joints. The cams, bearing rings and end pieces of Seim inherently have an outer diameter bigger than the inner pipe diameter so that they can be slipped into the pipe and joined to the pipe.

Regarding claim 9, Seim teaches a built-up camshaft comprising:

a pipe coated with a crystalline phosphate coating on an outer cylindrical surface and having an outer pipe diameter (Figs. 10 and 12);

a cam (Figs. 1 and 12) having an inner diameter larger than the outer pipe diameter and connected by means of a compression joint to the pipe and provided with the crystalline phosphate coating on surfaces being in contact with the pipe, wherein the crystalline phosphate coating prevents a tribocorrosion and increases load capacity as compared to compression joints and creates a stable joint between the pipe and the cam;

a bearing ring having an inner diameter larger than the outer pipe diameter and connected by means of a compression joint to the pipe and provided with a crystalline phosphate coating on surfaces being in contact with the pipe, wherein the crystalline phosphate coating prevents a tribocorrosion and increases load capacity as compared to compression joints and creates a stable joint between the pipe and the bearing ring; an end piece having an inner diameter larger than the inner pipe diameter and connected by means of a compression joint to the pipe and provided with a

crystalline phosphate coating on surfaces being in contact with the pipe, wherein the crystalline phosphate coating prevents a tribocorrosion and increases load capacity as compared to compression joints and creates a stable joint between the pipe and the end piece.

Note that Seim's camshaft inherently has the bearing rings and end pieces. Without the bearing rings and end pieces, one would not be able to mount Seim's camshaft to other parts of the internal combustion engine.

Regarding claim 10, Seim teaches a built-up camshaft comprising:

an elongated part (Figs. 1 and 12) having an outer cylindrical surface;

a cam (Figs. 1 and 12) connected by means of a longitudinal compression joint to the elongated part, wherein the cam is covered with a joint-stable surface coating (Fig. 12), and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to compression joints; a bearing ring connected by means of a longitudinal compression joint to the elongated part, wherein the cam is covered with a joint-stable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to compression joints;

an end piece connected by means of a longitudinal compression joint to the elongated part, wherein the cam is covered with a joint-stable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to compression joints.

Note that Seim's camshaft inherently has the bearing rings and end pieces. Without the bearing rings and end pieces, one would not be able to mount Seim's camshaft to other parts of the internal combustion engine.

Regarding claim 11, see regarding claim 3 above.

Regarding claim 12, see regarding claim 4 above. Further, note that the patentability of product-by-process is not dependent upon the process (cutting or non-cutting, milling or forging in massive or profiled form). M.P.E.P. 2113.

Regarding claim 13, the outer jacket face of the pipe (Figs. 1 and 12) inherently has a drawn quality. See also M.P.E.P. 2113 *supra*.

Regarding claim 14, the elongated part having an outer cylindrical surface is a pipe (Fig. 1).

Regarding claim 15, the elongated part having an outer cylindrical surface is a solid rod (Fig. 6).

Regarding claim 16, Seim teaches a built-up camshaft comprising a pipe or a solid rod, cams, bearing rings, end pieces, and other parts (Fig. 5), wherein the cams, the end pieces, the bearing rings, and the other parts are connected by means of longitudinal compression joints to the pipe or to the solid rod, wherein the parts to be connected are provided with a suitable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to conventional compression joints.

35 USC 103(a)

Regarding claims 1-7, and 9-16, Seim teaches the invention substantially as claimed. See the rejection under 35 USC 102(a) above. However, Seim does not explicitly teach the dimensions of the cams, bearings, end pieces and pipe, etc. as claimed

It is common knowledge in the art to change the dimensions of the cams, bearings, end pieces and pipe, etc. of Seim such that, e.g., the end pieces of Seim have an outer diameter bigger than the inner pipe diameter, etc. in order to slide the end pieces into the pipe and join the end pieces to the pipe. See ***stare decisis*** about the change in size/proportion cited in M.P.E.P. 2144.04.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to change the dimensions of the cams, bearings, end pieces and pipe, etc. of Seim such that, e.g., the end pieces of Seim have an outer diameter bigger than the inner pipe diameter, etc. in order to slide the end pieces into the pipe and join the end pieces to the pipe as suggested by common knowledge in the art.

18. Claims 9-16, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Seim in view of Mettler-Friedli (US Patent No. 5,299,881).

Japanese Utility Model # 61-166980 (Fig. 1), Japanese Utility Model # 8-93884 Regarding claims 9-16, Seim teaches the invention substantially as claimed. However, Seim does not explicitly teach the bearing rings and the end pieces. See page 23 of Paper No. 15.

Mettler-Friedli teaches the conventional bearing rings and the end pieces 2, 2a, 12, 13 in order to mount the camshaft to an internal combustion engine as seen in line 19 et seq., column 5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the conventional bearing rings and the end pieces on Seim's camshaft in order to mount Seim's camshaft to the internal combustion engine as suggested by Mettler-Friedli.

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Japanese Utility Model # 61-166980 (Fig. 1), Japanese Utility Model # 8-93884 (Fig. 1), Podhorsky (Fig. 1), and Tanaka (Fig. 10).

20. Applicant's arguments filed August 15, 2001 have been fully considered but they are not persuasive.

OBJECTIONS

Applicant did not respond to the previous objections to, e.g., the Preliminary Amendment filed on February 23, 2000, and the proposed drawing correction filed on July 31, 2000 as required under 37 C.F.R. 1.111. Therefore, these objections are reiterated.

ART REJECTION

First, applicant contended East German Patent No. 0 152 972 does not teach the camshaft. The rejections based on Pat.'972 have been withdrawn, applicant's arguments are deemed to be moot.

Second, applicant asserted, ***inter alia***, that Seim does not teach the bearings and end pieces as required in claim 1. However, the examiner respectfully submits that it is well settled that each of the elements is not necessary to be described expressly in the reference. In fact, the claim is also anticipated if each of the elements is *inherently described* in the single reference. *Verdegaal Brothers,*

Inc. v. Union Oil Co., 2 U.S.P.Q.2d 1051, 1053 (CAFC 1987) and cases cited therein. Moreover, the single USC 102 reference needs not provide such explanation to anticipate when an artisan would know as evidenced by standard text books. ***In re Opprecht***, 12 U.S.P.Q.2d 1235 (CAFC 1989).

In the instant case, the artisan would know that Seim's camshaft inherently has the bearing rings and end pieces. In fact, the bearing rings and end pieces are notoriously conventional in the camshaft art (see, e.g., US Patent No. 5,299,881 issued to Mettler-Friedli, Japanese Utility Model # 61-166980, Japanese Utility Model # 8-93884,and other references classified, e.g., in Class 74, subclass 567 and Class 123, subclass 90.6 of the Office). Without the bearing rings and end pieces, one would not be able to assemble or mount Seim's camshaft to other parts of the internal combustion engine, i.e., Seim's camshaft would be inoperative for its intended purposes.

Third, applicant contended, *e.g.*, on page 31 *et seq*. of Paper No. 15 that the sliding friction during the pressing of the cam onto the tube converts into adhesive friction, *etc*. as seen in journal articles of *G. Pursche, H. Gropp*. However, the information referred to therein has not been considered since applicant lacks a statement under 37 C.F.R. 1.97(e), or the fee under 37 C.F.R. 1.17(p).

Fourth, applicant contended that there is a change of the conversion layer based on pressing of the press connection and forming of a micro form matching as seen in Figs. 1-8 of Paper No. 15.

Applicant apparently overlooks a well-established expectation that similar structures would behave similarly. ***In re Merck & Co., Inc.***, 231 USPQ 375 (CAFC 1986). In the case ***sub judice***, Seim teaches the coating of crystalline phosphate on a camshaft. Therefore, Seim's camshaft is

expected to behave in the same manner as applicant's camshaft, i.e., the change of the conversion layer based on pressing of the press connection and forming of a micro form matching is necessary inherent and flown naturally from Seim's teaching of the same type of applicant's coating. *In re Best*, 195 USPQ 430, 433 (CCPA 1977) and M.P.E.P. 2112.

For the reasons stated above, the rejections based on Seim are maintained.

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Luong whose telephone number is (703) 308-3221. The examiner can normally be reached on Monday-Thursday from 8:30 AM EST to 7:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci, can be reached on (703) 308-3668. The fax phone number for this Group is (703) 305-7687. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.

Luong

October 18, 2001

Vinh T. Luong
Primary Examiner

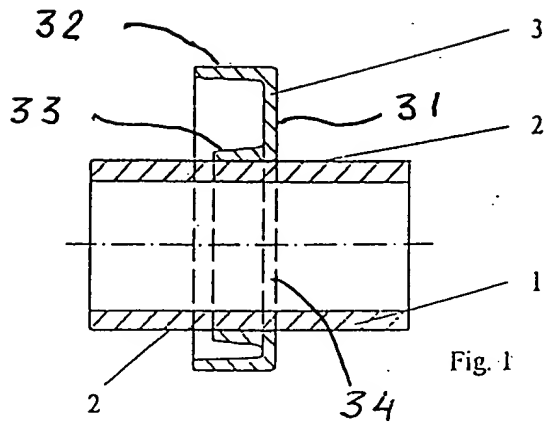

Fig. 1

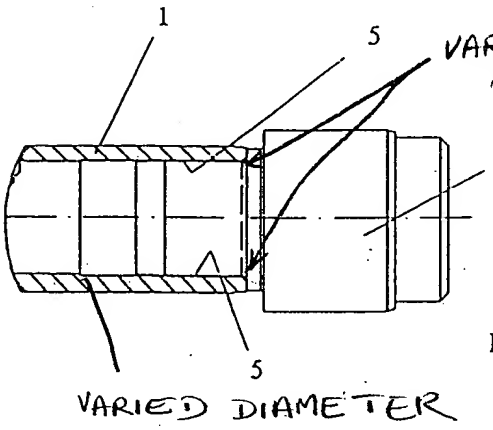

Fig. 2

Not
Approved
VL
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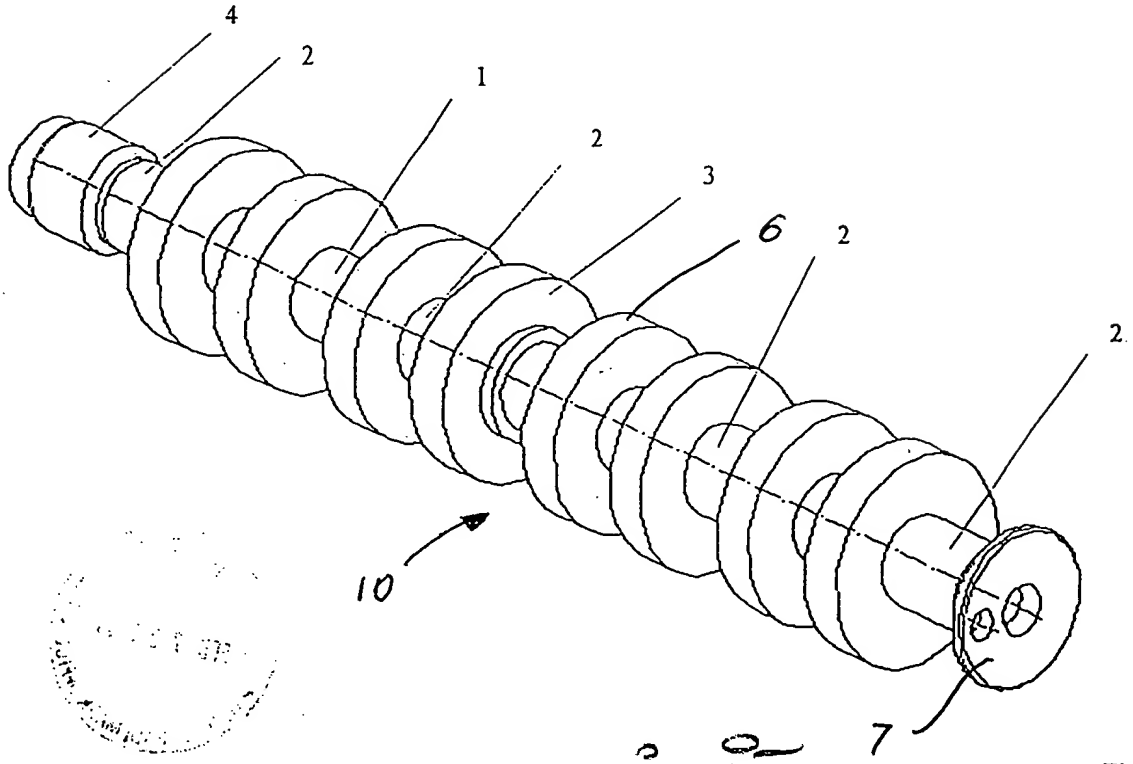
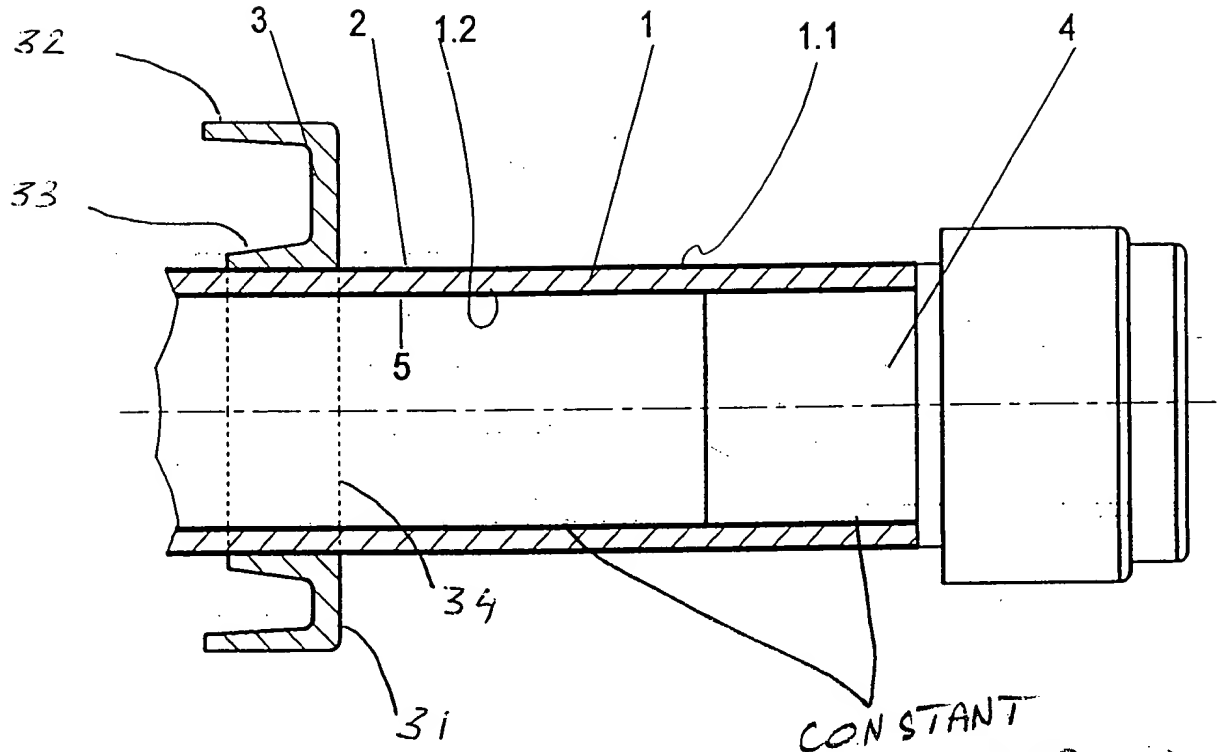


Fig.3

EXHIBIT

(PAGE 1 OF 2)



Disapproved
VL
10/20/00

Fig. 4

EXHIBIT
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